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- CHROMOSOMES**, *Oncorhynchus mykiss* (evid. that $2n = 58$ is ancestral, all $2n = 58$ fish have same karyotype) 661-664.
- COLONIZATION**, *Eleutherodactylus johnstonei* (reprod. ecol. of introd. popn., success as invader rel. to reprod. flex.) 642-648.
- COLORATION**, *Mantidactylus* (*elegans*, *madecassus*), *Boophis laurenti* (dark color corel. w/ high altitude in tdpis.) 174-183; *Ensatina eschscholtzii xanthoptica* (evid. for aposematic coloration, possible Batesian mimicry) 265-271; *Aspidoscelis inornata*, *Holbrookia maculata*, *Sceloporus undulatus* (color var. btwn. habs. mostly genetic) 586-596; *Sceloporus undulatus* (sex. dichromatism regulated by testosterone) 597-608.
- CONSERVATION**, *Cyprinodon tularosa* (transloc. of thrtnd. sp. to new habs., body shape chngs., mngmnt. implics.) 1-11; *Notropis mekistocholas* (genet. effs. of captive propagation) 20-28; *Notropis topeka*, *Micropterus salmoides* (cons. implics. of introd. *M. salmoides* pred. on endngd. *N. topeka*) 38-47; *Pogonichthys macrolepidotus* (habitat requirements of young-of-yr., import. conserv. implics.) 159-168; *Scaphiophryne menabensis* n. sp. (highly endngd. ecosystem) 252-261; *Lepidocheilus kempii* (female bias in popn. due to incub. temp., import. in conserv. mngmnt.) 393-398; *Agkistrodon piscivorus* (import. of buffer zones around riparian habs.) 399-402; freshwater stream fishes (49 spp.) (conserv. mngmt. recommends. from fish assemblage study of small tropical streams) 751-764; 9 SE U.S. snake spp. (conserv. implics. of road-crossing beh.) 772-782; *Noturus* (*fasciatus* n. sp., *crypticus* n. sp.) (cons. status) 783-802; *Boa constrictor* (island snakes differ from mainland popns., island popns. endngd. by pet trade) 880-885; *Hoplocephalus bungaroides*, *Oedura lesueurii* (conserv. implics. of fire suppression on endngd. sp. & its prey sp.) 894-900.
- DENTITION**, *Lobotes surinamensis*, *Datnioides quadrifasciatus* (oral jaws w/ dentition, unique tooth replcmnt. ptn.) 665-672; *Parodon moreirai* n. sp. (dentary teeth reduced & sometimes absent in n. sp., discuss sim. to *Apareiodon*) 765-771.
- DEVELOPMENT**, *Hyla versicolor* (pred. chem. cues at egg stage aff. larval dev.) 169-173; *Danio rerio* (aggres. beh. aff. by hypoxic environ. during devel., interacts. btwn. testing & devel. invirons.) 901-908.
- DIGESTION**, *Dipsosaurus dorsalis* (var. in thermoreg. beh. rel. to herbiv. vs. carniv. diets) 12-19.
- DISTRIBUTION**, *Barbodes laticeps* = *Linichthys* n. gen. *laticeps* 61-67; *Trichomycterus gorgona* n. sp. (only island Trichomycterid) 68-76; *Gymnotus* (*obscurus* n. sp. [very limited], *varzea* n. sp., *cucupira* n. sp.) 82-99; *Silvinichthys bortayro* n. sp. (very limited) 100-108; *Pseudanos* (*winterbottomi* n. sp., *gracilis*) 109-123; *Symbolophorus* (*reversus*

- n. sp., *evermanni*) (n. sp. & 7 congeners, much overlap btwn. spp.) 138–145; *Pogonichthys macrolepidotus* (young-of-yr. further upstream than previous evid., conserv. implics.) 159–168; *Bolitoglossa* (*anthracina*, *copia*, *nigrescens*, *robusta*, *magnifica* n. sp., *obscura* n. sp., *sombra* n. sp.) (details incl. altitude) 227–245; *Acentrophryne* (*longidens*, *dolichonema* n. sp.) (notes) 246–251; *Scaphiophryne menabensis* n. sp. (details) 252–261; *Jupia poekotero* n. sp. (details of limited distrib.) 272–278; *Huia* (*absita* n. sp., *melasma* n. sp., *masonii*) (map of type localities) 279–289; *Puntius* (*tiantian* n. sp., *didi* n. sp.) 290–302; *Albericus exclamitans* n. sp. (very limited) 312–319; *Myxine* (*jespersenae* n. sp., *glutinosa*) (incl. depth) 374–385; *Bryconamericus turiuba* n. sp. 386–392; *Asterorhombus* (7 spp.: 3 removed to *Engyprotopon*, *A. fijiensis* = *A. cocosensis*) (the 3 spp. have 2 ptns. of distrib.) 445–460; *Etopus ciadi* n. sp. (map of localities) 470–478; *Phrynopis* (*bufoides* n. sp., *paucari* n. sp., *pesantisi* n. sp.) (type locs. of n. spp. & all other Peruvian *Phrynopis*) 479–491; *Brachyplatystoma capapretum* n. sp. (map of localities) 492–516; *Eleutherodactylus* (*bipunctatus* n. sp., *aniptopalmatum* n. sp., *rhabdocnemus* n. sp., *stictogaster* n. sp.) (of n. sp., distr. ptns. of eleutherodactyline sp. groups in Peru) 526–538; *Pareiorhina* (*brachyrhyncha* n. sp., *rudolphi*) (n. sp. sympatric w/ *P. rudolphi*) 550–558; *Sturisoma kneri* n. sp. (limited) 559–565; *Clupisoma nujiangense* n. sp. (limited) 566–570; *Phallotoryus* (*fasciolatus*, *victoriae*, *jucundus*, *dispilos* n. sp., *psittakos* n. sp., *pankalos* n. sp.) (map of localities) 609–631; *Lepthoplosternum* (*stellatum* n. sp., *ucamara* n. sp., *altamazonicum*) (map of localities) 724–731; *Pseudomystus sobrinus* n. sp. (map of localities) 745–750; *Parodon moreirai* n. sp. 765–771; *Noturus* (*fasciatus* n. sp., *crypticus* n. sp.) (very limited, esp. *N. crypticus*, evid. for reduction in *N. fasciatus*) 783–802; *Creagrutus guanes* n. sp. 812–817; *Bungarus* (*bungaroides*, *slowinskii* n. sp.) (map of localities) 818–833; *Mustelus* (*hacat* n. sp., *californicus*, *hentei*, *lumulatus*, *dorsalis*) (notes, incl. depth) 834–845; *Glanidium bockmanni* n. sp. (map of localities) 846–853; *Haplophenys* (*sennin* n. sp., *nigripinnis*, *nitens* = *nigripinnis*) 854–867; *Rhizoprionodon terraenovae* (seas. & yrly. chngs. in abund. in Miss. Sound, gender & age diffs.) 914–920; *Atelognathus patagonicus* (endngd. sp., extinct in large lake w/ introd. fish, common in small lakes w/out fish) 921–929.
- ECOLOGY, *Gymnotus* (*carapo*, *mamiraua*) (intra- & interspecific ecol. adapt. of nest. beh.) 48–60; *Trichomycterus gorgona* n. sp. (notes) 68–76; *Gymnotus* (*obscurus* n. sp., *varzea* n. sp., *cucupira* n. sp.) (detailed notes on hab.) 82–99; *Silvichthys bortayro* n. sp. (phreatic catfish, ecol. notes) 100–108; *Crotalus atrox* (reprod. ecol.) 152–158; *Pogonichthys macrolepidotus* (young-of-yr. further upstream than previous evid., conserv. implics.) 159–168; *Jupia poekotero* n. sp. (notes) 272–278; *Huia* (*absita* n. sp., *melasma* n. sp., *masonii*, *javana* = *masonii*) (notes) 279–289; *Puntius* (*tiantian* n. sp., *didi* n. sp.) (notes) 290–302; *Albericus exclamitans* n. sp. (notes) 312–319; *Bryconamericus turiuba* n. sp. (notes) 386–392; *Aghastrotodon piscivorus* (import. of buffer zones around riparian hab.) 399–402; *Astyanax mexicanus* (gene flow btwn. cave & surface popns.) 409–416; Neosho R., Kansas, shallow-water fish spp. (31 spp., 10 fams.) (fish assemblage struct. aff. by low-head dams, seas. var.) 539–549; *Lapemis curtus* (diel var. in stom. conts., no geogr. var., evid. for ambush foraging) 637–641; *Eleutherodactylus johnstonei* (reprod. ecol. of introd. popn., success as invader rel. to reprod. flex.) 642–648; freshwater stream fishes (49 spp.) (small hab. diffs. w/in small tropical streams strongly aff. fish assemblage) 751–764; 9 SE U.S. snake spp. (interspp. diffs. in ecol. aff. road-crossing success) 772–782; *Noturus* (*fasciatus* n. sp., *crypticus* n. sp.) (notes) 783–802; *Leptodactylus labyrinthicus* (of larval devel. in foam nests & after leave nests, oophagy) 803–811; *Creagrutus guanes* n. sp. (notes) 812–817; *Boa constrictor* (island compared to mainland popns., great diffs.) 880–885; *Atelognathus patagonicus* (microhabs., densities, reprod. seas., % aquatic & littoral adult forms, evid. of disease in lg. % of metamorphic tdpls. & metamorphs) 921–929.
- EGGS, *Hyla versicolor* (pred. chem. cues at egg stage aff. larval develop.) 169–173; *Heterodontus omanensis* n. sp. (unique egg case) 262–264; *Malaclemys terrapin* (compare size & components among clutches) 417–423; *Lampropholis* (*guichenoti*, *delicata*), *Physignathus lesuevrii* (egg shell chem. comp. & struct., *P. lesuevrii* shares 1 trait w/ the Tuatara) 683–692; *Leptodactylus labyrinthicus* (oophagy both w/in foam nests & after tdpls. leave nests) 803–811; *Kinosternon subrubrum*, *Sternotherus odoratus*, *Pseudemys floridana* (clutch & egg size var. rel. to optimal egg-size & phenotypic plasticity models of reprod. allocation) 868–879.
- ELECTRIC ORGAN, *Gymnotus* (*carapo*, *mamiraua*) (descripts. of dischs. for larvae & adults, rel. to nest. beh.) 48–69; *Gymnotus* (*obscurus* n. sp., *varzea* n. sp., *cucupira* n. sp.) (anat. & dischg. wave forms disting. spp.) 82–99.
- ENDANGERED SPECIES, *Cyprinodon tularosa* (transloc. of thrtnd. sp. to new habs., body shape chngs.) 1–11; *Notropis mekistocholas* (large effective popn. size in captive popn.) 20–28; *Notropis topeka*, *Micropterus salmoides*, *Cyprinella lutrensis*, *Pimephales notatus*, *Luxilus cornutus* (endngd. *N. topeka* more affected by introd. *M. salmoides* pred. than other minnows) 38–47; *Lepidocheilus kempii* (female bias in FL popn. due to incub. temp., import. in conserv. mgmnt.) 393–398; *Phallotoryus* (*fasciolatus*, *victoriae*, *jucundus*, *dispilos* n. sp., *psittakos* n. sp., *pankalos* n. sp.) (possibly extinct) 609–631; *Noturus crypticus* n. sp. (probably relict popn., needs Fed. protection) 783–802; *Boa constrictor* (island snakes differ from mainland popns., extremely small

- popn. sizes, declining, island popns. should be listed as endngd. in IUCN Red List) 880-885; *Hoplocephalus bungaroides*, *Oedura lesueurii* (conserv. implics. of fire suppression on endngd. sp. & its prey sp.) 894-900; *Atelognathus patagonicus* (extinct in lg. lake w/ introd. fish, common in small lakes w/out fish, evid. of disease in lg. % of metamorphic tdpls. & metamorphs) 921-929.
- EVOLUTION**, *Cyprinodon tularosa* (evol. implics. of details of shape chng. in thtrnd. sp. transloc. to diff. habs.) 1-11; *Gymnotus (carapo, mamiraua)* (of electric organ dischg. functs. rel. to nesting) 48-60; *Huia (absita n. sp., melasma n. sp., masonii, javana = masonii)* (theory of speciation of *H. absita* from *H. masonii*) 279-289; *Cyprinodon* (24 of 29 SW. N. Amer. spp., 11 of 20 E. N. Amer. & W. Indies spp.), *Jordanella floridae*, *Cualac tessellatus*, *Megupsilon aporus* (*Cyprinodon* evol. from *Megupsilon* during Miocene, reticulate evol., much hybrid.) 320-339; *Lepomis* (all 12 spp.) (clad. anal. w/ mtDNA data reveals system. problems w/ some spp., possible cryptic spp.) 340-346; *Coregonus* (19 popns. in 8 lakes) (of phenotype & mode of speciation, signif. of homoplasy) 347-358; *Rana dalmatina* (hypoths. on lack of male mate choice despite advntgs. for it) 403-408; *Lethrinops c.f. parvidens* (experim. evid. for sex. selection of male beh. trait) 657-660; *Bungarus (bungaroides, sloviskii n. sp.)* (biogeogr. & mtDNA evid. for vicariant speciation) 818-833; *Thamnophis elegans* (direct evid. for coadapt. of thermoreg. & thermal optima for embryo devel. & adult perform.) 930-934.
- FEEDING**, *Vermicella annulata*, *Ramphotyphlops nigrescens* (preds. [V. annulata] follow chem. trails of prey [*R. nigrescens*]) 184-187; *Elaphe quatuorlineata* (diet, seas., gender & hab. diffs.) 517-525; *Leptodactylus labyrinthicus* (oophagy both w/in foam nests & after tdpls. leave nests) 803-811.
- FOOD**, *Dipsosaurus dorsalis* (herbiv. vs. carniv. diets prod. diff. pttns. of thermoreg., relates to energy conserv.) 12-19; *Gymnotus (obscurus n. sp., varzea n. sp., cucupira n.sp.)* (stom. conts.) 82-99; *Silvinichthys bortayro n. sp.* (stom. conts., food taken in aquarium) 100-108; *Pseudanos (winterbottomi n. sp., gracilis)* (stom. conts.) 109-123; *Jupiaba poekotero n. sp.* (notes on stom. conts.) 272-278; *Phrynosoma (bujoides n. sp., pesantisi n. sp.)* (stom. conts.) 479-491; *Elaphe quatuorlineata* (diet, seas., gender & hab. diffs.) 517-525; *Lapemis curtus* (diel var. in stom. conts., no geogr. var., evid. for ambush foraging) 637-641; *Leptodactylus labyrinthicus* (oophagy both w/in foam nests & after tdpls. leave nests) 803-811; *Glanidium bockmanni n. sp.* (stom. conts. of 2 specimens) 846-853; *Boa constrictor* (diet diff. btwn. island & mainland popns.) 880-885.
- GENETICS**, *Cyprinodon tularosa* (genet. implics. of details of shape chng. in thtrnd. sp. transloc. to diff. habs.) 1-11; *Notropis mekistocholas* (gen. var. in captive vs. wild popns.) 20-28; *Astyanax mexicanus* (gene flow btwn. cave & surface popns.) 409-416; *Oncorhynchus mykiss* (evid. that 2n = 58 is ancestral, all 2n = 58 fish have same karyotype) 661-664.
- GEOGRAPHIC LOCALITIES**,
 Alabama, *Rhizoprionodon terraenovae* (Miss. Sound) 914-920.
 Alaska, *Oncorhynchus mykiss* 661-664.
 Amazon River, *Brachyplatystoma capapretum n. sp.* 492-516.
 Arabian Sea, *Heterodontus omanensis n. sp.* 262-264.
 Argentina, *Silvinichthys bortayro n. sp.* 100-108; *Phallotoryus victoriae* 609-631; *Atelognathus patagonicus* 921-929.
 Arizona, *Crotalus atrox* 152-158.
 Atlantic Ocean, *Lasiognathus amphirhamphus n. sp.* (NE) 77-81; *Myxine (jespersenae n. sp., glutinosa)* (N) 374-385.
 Australia, *Vermicella annulata*, *Ramphotyphlops nigrescens* (NSW) 184-187; *Litoria (genimaculata, lesueurii)* (QLD) 188-195; *Lampropholis (guichenoti, delicata)*, *Physignathus lesueurii* (NSW) 683-692; *Hoplocephalus bungaroides*, *Oedura lesueurii* (NSW) 894-900.
 Belize, *Boa constrictor* 880-885.
 Bering Sea, *Ptilichthys goodiei* 571-585.
 Brazil, *Gymnotus mamiraua* 48-60; *Gymnotus (obscurus n. sp., varzea n. sp., cucupira n.sp.)* 82-99; *Pseudanos (winterbottomi n. sp., gracilis)* 109-123; *Nemuroglanis (lanceolatus, pauciradiatus)* 124-137; *Jupiaba poekotero n. sp.* 272-278; *Bryconamericus turiubi n. sp.* 386-392; *Brachyplatystoma capapretum n. sp.* 492-516; *Parachanna (brachyryncha n. sp., rudolphi)* 550-558; *Phallotoryus (fasciolatus, victoriae, jucundus, pankalos n. sp.)* 609-631; *Megalechis personata = M. thoracata*, *Megalechis thoracata = M. picta* 678-682; *Leptoplosternum (stellatum n. sp., ucarnum n. sp., altamazonicum)* 724-731; freshwater stream fishes (49 spp.) 751-764; *Parodon moreirai n. sp.* 765-771; *Leptodactylus labyrinthicus* 803-811; *Glanidium bockmanni n. sp.* 846-853.
 California, *Dipsosaurus dorsalis* 12-19; *Alopias vulpinus* 146-151; *Pogonichthys macrolepidotus* 159-168; *Acentrophryne sp.* (Miocene fossil) 246-251; *Ensatina eschscholtzii xanthoptica* 265-271; *Oncorhynchus mykiss* 661-664; *Thamnophis elegans* 930-934.
 Canada, *Rana (septentrionalis, sylvatica)* (Man.) 188-195.
 China, *Bambodes laticeps = Linichthys n. gen. laticeps* 61-67; *Clupisoma nujiangense n. sp.* 566-570; *Haplophenys (nigripinnis, nitens = nigripinnis)* 854-867.
 China Sea, *Haplophenys (nigripinnis, nitens = nigripinnis)* 854-867.
 Colombia, *Trichomycterus gorgona n. sp.* (Gorgona Is.) 68-76; *Imparales mariae & Medemichthys guayaberenensis = Nemuroglanis mariae* 124-137; *Eleutherodactylus johnstonei* 642-648; *Creagrutus guanes n. sp.* 812-817.

- Costa Rica, *Bolitoglossa* (*nigrescens*, *robusta*, *obscura* n. sp., *sombra* n. sp.) 227-245; *Acentrophryne longidens* (Pacific O.) 246-251.
- East China Sea, *Hapalogenys* (*nigripinnis*, *nitens* = *nigripinnis*) 854-867.
- Ecuador, *Nemuroglanis lanceolatus* 124-137.
- Florida, *Sistrurus miliarius* 196-200; *Jordanella floridae* 320-339; *Lepidochelys kempii* 393-398; *Heterandria formosa* 649-656.
- French Guiana, *Megalechis personata* = *M. thoracata* 678-682.
- Gorgona Is., Colombia, *Trichomycterus gorgona* n. sp. 68-76.
- Greenland, *Myxine* (*jespersenae* n. sp., *glutinosa*) 374-385.
- Gulf of California, *Etropus ciadi* n. sp. 470-478; *Mustelus* (*hacat* n. sp., *californicus*, *henlei*, *lunulatus*, *dorsalis*) 834-845.
- Gulf of Masira, *Heterodontus omanensis* n. sp. 262-264.
- Gulf of Mexico, *Rhizoprionodon terraenovae* (Miss. Sound) 914-920.
- Gulf of Panama, *Acentrophryne longidens* 246-251.
- Guyana, *Megalechis personata* = *M. thoracata*, *Megalechis thoracata* = *M. picta* 678-682.
- Hungary, *Rana dalmatina* 403-408.
- Iceland, *Myxine jespersenae* n. sp. 374-385.
- Idaho, *Oncorhynchus mykiss* 661-664.
- India, *Philautus* (*bobingeri* n. sp., *graminirupes* n. sp.) 29-37; *Lapemis curtus* 637-641; *Bungarus bungaroides* 818-833.
- Indian Ocean, *Symbolophorus evermanni* 138-145; *Asterorhombus* (7 spp.: 3 removed to *Engypropon*, *A. fijiensis* = *A. cocosensis*) (margins & islands) 445-460.
- Indonesia, *Huia* (*masonii*, *javana* = *masonii*) (Java) 279-289; *Bathygobius* (*fuscus*, sp.), *Periophthalmus kalolo* (island off Sulawesi) 886-893.
- Italy, *Elaphe quatuorlineata* 517-525.
- Japan, *Hapalogenys* (*sennin* n. sp., *nigripinnis*, *nitens* = *nigripinnis*) 854-867.
- Java, *Huia* (*masonii*, *javana* = *masonii*) 279-289.
- Kansas, *Notropis topeka*, *Micropterus salmoides*, *Cyprinella lutrensis*, *Pimephales notatus*, *Luxilus cornutus* 38-47; Neosho R., Kansas, shallow-water fish spp. (31 spp., 10 fams.) 539-549.
- Korea, *Hapalogenys* (*nigripinnis*, *nitens* = *nigripinnis*) 854-867.
- Lake Malawi, Cichlids (48 spp.) 359-373; *Lethrinops* c.f. *parvidens* 657-660.
- Lake Tanganyika, Cichlids (48 spp.) 359-373.
- Laos, *Huia absita* n. sp. 279-289.
- Madagascar, *Mantidactylus* (*elegans*, *madecassus*), *Boophis laurenti* 174-183; *Scaphiophryne* (*menabensis* n. sp., *marmorata*, *madagascariensis*) 252-261.
- Madeira Abyssal Plain, *Lasiognathus amphirhamphus* n. sp. 77-81.
- Madeira Is., *Lasiognathus amphirhamphus* n. sp. 77-81.
- Malawi, *Lethrinops* c.f. *parvidens* 657-660.
- Maryland, *Malaclemys terrapin* 417-423.
- Mexico, *Cualac tessellatus* (San Luis Pot.), *Megupsilon aporus* (Nuevo Leon) 320-339; *Astyanax mexicanus* (Taum., San Luis Pot.) 409-416; *Pseudoeurycea* (*papenfussi* n. sp., *obesa* n. sp.) (Oax.) 461-469; *Etropus ciadi* n. sp. (Gulf of Cal., Baja Cal., Sin.) 470-478; *Mustelus* (*hacat* n. sp., *californicus*, *henlei*, *lunulatus*, *dorsalis*) (Gulf of Cal.) 834-845.
- Michigan, *Rana sylvatica*, *Anax junius* 909-913.
- Mississippi, *Rhizoprionodon terraenovae* (Miss. Sound) 914-920.
- Mississippi Sound, *Rhizoprionodon terraenovae* 914-920.
- Missouri, *Hyla versicolor* 169-173.
- Myanmar, *Puntius* (*tiantian* n. sp., *didi* n. sp.) 290-302; *Bungarus bungaroides* 818-833.
- New Jersey, *Sceloporus undulatus* 597-608.
- New Mexico, *Cyprinodon tularosa* 1-11; *Aspidoscelis inornata*, *Holbrookia maculata*, *Sceloporus undulatus* 586-596.
- North Carolina, *Notropis mekistocholas* 20-28.
- Oman, *Heterodontus omanensis* n. sp. 262-264.
- Oregon, *Hyla regilla* 424-430.
- Pacific Ocean, *Trichomycterus gorgona* n. sp. (Gorgona Is., Colombia) 68-76; *Symbolophorus* (*reversus* n. sp. [E & central], *evermanni* [W & central]) 138-145; *Acentrophryne* (*longidens* [Gulf of Panama & off Costa Rica], *dolichonema* n. sp. [off Peru]) 246-251; *Asterorhombus* (7 spp.: 3 removed to *Engypropon*, *A. fijiensis* = *A. cocosensis*) (W: margins & marginal islands, all 3 spp.; central islands only *A. filifer*) 445-460; *Ptilichthys goodei* (N, near shore) 571-585.
- Panama, *Bolitoglossa copia* n. sp. 223-226, 227-245; *Bolitoglossa* (*anthracina*, *robusta*, *magnifica* n. sp., *sombra* n. sp.) 227-245.
- Papua-New Guinea, *Albericus exclamitans* n. sp. 312-319; *Dasyllus melanurus* 732-744.
- Paraguay, *Phallotorynus* (*victoriae*, *disiplos* n. sp., *psittakos* n. sp.) 609-631.
- Peru, *Gymnotus* (*varzea* n. sp., *cucupira* n. sp.) 82-99; *Nemuroglanis lanceolatus* 124-137; *Acentrophryne dolichonema* n. sp. (Pacific O.) 246-251; *Phrynosoma* (*busfoides* n. sp., *paucari* n. sp., *pesantisi* n. sp.) 479-491; *Brachyplatystoma capapretum* n. sp. 492-516; *Eleutherodactylus* (*bipunctatus* n. sp., *aniptopalmatum* n. sp., *rhabdocnemus* n. sp., *stictogaster* n. sp.) 526-538; *Microlophus peruvianus* 713-723; *Lepthoplosternum* (*ucamara* n. sp., *altamazonicum*) 724-731.
- Sea of Japan, *Ptilichthys goodei* 571-585; *Hapalogenys* (*sennin* n. sp., *nigripinnis*, *nitens* = *nigripinnis*) 854-867.
- South Carolina, 9 SE U.S. snake spp. 772-782; *Kinosternon subrubrum*, *Sternotherus odoratus*, *Pseudemys floridana* 868-879.
- Suriname, *Megalechis personata* = *M. thoracata* 678-682.
- Switzerland, *Coregonus* (19 popns. in 8 lakes) 347-358.
- Taiwan, *Hapalogenys* (*nigripinnis*, *nitens* = *nigripinnis*) 854-867.
- Tennessee, *Noturus* (*elegans*, *fasciatus* n. sp., *crypticus* n. sp.) 783-802.
- Texas, *Agkistrodon piscivorus* 399-402.
- Thailand, *Huia melasma* n. sp. 279-289.

Tibet, *Bungarus bungaroides* 818-833.

Trinidad, *Gymnotus carapo* 48-60.

Venezuela, *Pseudanos (winterbottomi)* n. sp., *gracilis*) 109-123; *Nemuroglanis pauciradiatus* 124-137; *Sturisoma kneri* n. sp. 559-565; *Megalechis personata* = *M. thoracata*, *Megalechis thoracata* = *M. picta* 678-682.

Vietnam, *Pseudomystus (sobrinus)* n. sp., *siamensis*, *bomboides*) 745-750; *Bungarus slowinskii* n. sp. 818-833.

Washington, *Iopsetta isolepis* x *Parophrys vetulus* 673-677.

GEOMETRIC MORPHOMETRICS, *Cyprinodon tularosa* (morph. chngs. after transloc. of thrtnd. sp. to new habs.) 1-11; Cichlids (Lake Tanganyika: 48 spp., Lake Malawi: 48 spp.) (anal. of shape diversity using geometric morphometrics, greater divers. in Lake Tanganyika) 359-373.

GROWTH, *Pseudanos winterbottomi* n. sp. (ontogen. chngs. in proportions) 109-123; *Hyla versicolor* (pred. chem. cues at egg stage aff. larval growth & age at metamorph.) 169-173; *Hyla regilla* (eff. of var. corticosterone levels on tdppls.) 424-430.

HABITAT, *Cyprinodon tularosa* (shape diffs. of thrtnd. sp. btwn. popns. in diff. habs.) 1-11; *Philautus (bobingeri)* n. sp., *graminirupes* n. sp.) (notes) 29-37; *Notropis topeka*, *Micropterus salmoides*, *Cyprinella lutrensis*, *Pimephales notatus*, *Luxilus cornutus* (minnow hab. use differs, not explains severe pred. eff. of *M. salmoides* on endngrd. *N. topeka*) 38-47; *Gymnotus (obscurus)* n. sp., *varzea* n. sp., *cucupira* n. sp.) (detailed notes) 82-99; *Silvinichthys bortayro* n. sp. (notes, phreatic catfish) 100-108; *Pseudanos winterbottomi* n. sp. (notes) 109-123; *Crotalus atrox* (mating hab.) 152-158; *Pogonichthys macrolepidotus* (of young-of-yr. further upstream than previous evid., conserv. implcs.) 159-168; *Mantidactylus (elegans, madecassus)*, *Boophis laurenti* (high altitude hab., descripts. of tdppls.) 174-183; *Bolitoglossa copia* n. sp. (high altitude) 223-226; *Bolitoglossa (nigrescens, robusta, magnifica)* n. sp., *obscura* n. sp., *sombra* n. sp.) (notes) 227-245; *Acentrophryne (longidens, dolichonema)* n. sp.) (notes) 246-251; *Scaphiophryne menabensis* n. sp. (highly endngrd. ecosystem) 252-261; *Puntius (tiantian)* n. sp., *didi* n. sp.) (notes) 290-302; *Albericus exclamitans* n. sp. (notes) 312-319; *Myxine (jespersenae)* n. sp., *glutinosa* (n. sp. deeper hab. than sympat. *M. glutinosa*) 374-385; *Bryconamericus turiuba* n. sp. (notes) 386-392; *Agkistrodon piscivorus* (import. of buffer zones around riparian habs.) 399-402; *Asterorhombus* (7 spp.: 3 removed to *Engyprospoon*, *A. fijiensis* = *A. cocosensis*) (substrates, depths) 445-460; *Pseudoeurycea (papenfussi)* n. sp., *obesa* n. sp.) (notes) 461-469; *Etropus ciadi* n. sp. (notes) 470-478; *Phrynosoma (buxoides)* n. sp., *pesantisi* n. sp.) (notes, *P. pesantisi* highest elev. of genus) 479-491; *Brachyplatystoma capapretum* n. sp. (notes) 492-516; *Elaphe quatuorlineata* (hab. diffs. aff. body size & diet) 517-525; *Eleutherodactylus (bipunctatus)* n. sp., *anipatpalmatum* n.

sp., *rhabdocnemus* n. sp., *stictogaster* n. sp.) (notes incl. altitude) 526-538; Neosho R., Kansas, shallow-water fish spp. (31 spp., 10 fams.) (fish assemblage struct. aff. by hab. var. due to low-head dams) 539-549; *Chupisoma nujiangense* n. sp. (notes) 566-570; *Aspidoscelis inornata*, *Holbrookia maculata*, *Sceloporus undulatus* (color morphs in diff. habs. mostly genetic-based) 586-596; *Leptoplosternum (stellatum)* n. sp., *ucamara* n. sp., *allamazonicum*) (notes) 724-731; freshwater stream fishes (49 spp.) (small hab. diffs. w/in small tropical streams strongly aff. fish assemblage) 751-764; *Noturus (fasciatus)* n. sp., *crypticus* n. sp.) (notes) 783-802; *Creagrutus guanes* n. sp. (notes) 812-817; *Bungarus slowinskii* n. sp. (notes) 818-833; *Mustelus (hacat)* n. sp., *californicus*, *henlei*, *lunulatus*, *dorsalis*) (depths) 834-845; *Glanidium bockmanni* n. sp. (notes) 846-853; *Haploprogenys (sennin)* n. sp., *nigripinnis*, *nitens* = *nigripinnis*) (notes) 854-867; *Bathygobius (fuscus)*, sp.), *Periophthalmus kalolo* (air-breathing & non-air-breathing beh. & physiol. adapts. to extreme diel temp. fluct.) 886-893; *Hoplocephalus bungaroides*, *Oedura lesueurii* (incr. veg. cover due to fire suppression, conserv. implcs. for endngrd. sp. & its prey sp.) 894-900; *Atelognathus patagonicus* (microhabs., density var. by hab. by seas.) 921-929.

HEARING, *Albericus exclamitans* n. sp. (hidden tympana in males unique in genus) 312-319.

HERMAPHRODITISM, *Dasyllus melanurus* (soc. beh. diffs. btwn. popns. rel. to sex change freq. diffs.) 732-744.

HISTOLOGY, *Dasyllus melanurus* (gonad devel. in sex change) 732-744.

HORMONES, *Hyla regilla* (corticosterone levels, rel. to growth reduction in tdppls.) 424-430.

HYBRIDIZATION, *Scaphiophryne (menabensis)* n. sp., *marmorata*, *madagascariensis*) (could be involved in n. sp.) 252-261; *Cyprinodon* (24 of 29 SW. N. Amer. spp., 11 of 20 E. N. Amer. & W. Indies spp.), *Jordanella floridae*, *Cualac tessellatus*, *Megaptilon aporus* (confounds phyl. anal., informs biogeogr.) 320-339; *Lepomis* (all 12 spp.) (confounds monophyly of some spp.) 340-346; *Iopsetta isolepis* x *Parophrys vetulus* (natural hybrids, 1 adult, 1 juv.) 673-677.

LARVAE, *Gymnotus (carapo, mamiraua)* (descripts. of electric organ dischs. for larvae & adults) 48-60; *Pogonichthys macrolepidotus* (& juveniles further upstream than previous evid., conserv. implcs.) 159-168; *Hyla versicolor* (pred. chem. cues at egg stage aff. larval develop.) 169-173; *Mantidactylus (elegans, madecassus)*, *Boophis laurenti* (descripts. based on mtDNA sp. ident. of tdppls.) 174-183; *Litoria (genimaculata, lesueurii)*, *Rana (septentrionalis, sylvatica)* (buoyancy control in egg larvae) 188-195; *Scaphiophryne menabensis* n. sp. (describe) 252-261; *Hyla regilla* (corticosterone levels, rel. to growth reduction in tdppls.) 424-430; *Leptodactylus labyrinthicus* (larval devel. in foam nests & after leave nests, oophagy) 803-811; *Rana sylvatica*, *Anax junius*

- (body zones & kill probs. of dragonfly naiad strikes on tdpis.) 909-913.
- LATERAL LINE.** *Silvinichthys bortayro* n. sp. (reduced latero-sensory canal syst. of skull) 100-108.
- LIFE HISTORY.** *Scaphiophryne menabensis* n. sp. (notes on reprod., ecol., syntopic tdpis.) 252-261; *Heterandria formosa* (popn. diffs. in matrotrophy mechanisms, illumins. other life hist. relationships) 649-656; *Kinosternon subrubrum*, *Sternotherus odoratus*, *Pseudemys floridana* (clutch & egg size var. rel. to optimal egg-size & phenotypic plasticity models of reprod. allocation) 868-879.
- LOCOMOTION.** 9 SE U.S. snake spp. (road-crossing success var. btwn. spp.) 772-782.
- METABOLISM.** *Dipsosaurus dorsalis* (herbiv. vs. carniv. diets prod. diff. pttns. of thermoreg., relates to energy conserv.) 12-19.
- METHODS.** *Mantidactylus (elegans, madecassus)*, *Boophis laurenti* (sp. ident. method for tdpis.) 174-183; *Lepidochelys kempii* (radio-immunoassay effective in sex determ. of juvs.) 393-398; *Heterandria formosa*, *Poecilia reticulata*, *Gambusia (affinis, geiseri)* (non-radioactive method to assess matrotrophy) 632-636.
- MICROSATELLITE DNA.** *Notropis mekisticholas* (in gen. var. in captive vs. wild popns.) 20-28; *Coregonus* (19 popns. in 8 lakes) (in anal. of evol. by homoplasy) 347-358.
- MIGRATION.** *Pogonichthys macrolepidotus* (of young-of-yr. from upstream to estuaries) 159-168; *Rhizoprionodon terraenovae* (evid. for geogr. sex. segregation in adults, neonate migr. to inshore hab.) 914-920.
- MIMICRY.** *Ensatina eschscholtzii xanthoptica* (evid. for aposematic coloration, possible Batesian mimicry) 265-271.
- MITOCHONDRIAL DNA.** *Notropis mekisticholas* (in gen. var. in captive vs. wild popns.) 20-28; *Mantidactylus (elegans, madecassus)*, *Boophis laurenti* (sp. ident. method for tdpis.) 174-183; *Scaphiophryne (menabensis* n. sp., *marmorata*, *madagascariensis*) (in phyl. anal. of these 3 spp. & other congeners) 252-261; *Cottus* (36 of 42 recognized spp., 6 undescr. spp.), *Leptocottus armatus*, 4 other Cottid genera (in clad. anal. of *Cottus* & taxa disrupting *Cottus* monophyly) 303-311; *Cyprinodon* (24 of 29 SW. N. Amer. spp., 11 of 20 E. N. Amer. & W. Indies spp.), *Jordanella floridae*, *Cualac tessellatus*, *Megupsilon aporus* (in biogeogr. & evol. of *Cyprinodon* from *Megupsilon*, incomplete info. from mtDNA) 320-339; *Lepomis* (all 12 spp.) (in phyl. anal.) 340-346; *Astyanax mexicanus* (in estim. of gene flow btwn. cave & surface popns.) 409-416; *Pseudoeurycea (papenfussi* n. sp., *obesa* n. sp.) (in phyl. anal.) 461-469; *Eleutherodactylus (bipunctatus* n. sp., *anipotpalmaris* n. sp., *rhabdocnemus* n. sp., *stictogaster* n. sp.) (in phyl. anal.) 526-538; *Bungarus (bungaroides, slowinskii* n. sp.) (in phyl. anal.) 818-833.
- MORPHOLOGY.** *Cyprinodon tularosa* (morph. chngs. after transloc. of thrtnd. sp. to new hab.) 1-11; *Symbolophorus (reversus* n. sp., *evermanni*) (of supracaudal gland, disting. n. sp.) 138-145; *Albericus exclamitans* n. sp. (hidden tympana in males unique in genus) 312-319; Cichlids (Lake Tanganyika: 48 spp., Lake Malawi: 48 spp.) (anal. of shape diversity using geometric morphometrics, greater divers. in Lake Tanganyika) 359-373; *Asterorhombus* (7 spp.: 3 removed to *Engyprotopon*, *A. fijiensis* = *A. cacosensis*) (separate 1st dorsal fin ray w/ esca) 445-460.
- NESTING.** *Gymnotus (carapo, mamiraua)* (nesting & paternal care, speculation on funct. of electric organ dischg. in nesting) 48-60; *Leptodactylus labyrinthicus* (larval devel. in foam nests & after leave nests, oophagy) 803-811.
- NOMENCLATURE.** *Barbodes laticeps* = *Linichthys* n. gen. *laticeps* (*B. laticeps* needs n. gen. because *Barbodes* is junior syn. of 2 diff. genera not appropriate for *B. laticeps*) 61-67; *Nemuroglanis (lanceolatus, pauciradiatus)*, *Imparales mariai* & *Medemichthys guayaberensis* = *Nemuroglanis mariai* (synon. genera & spp.) 124-137; *Huia (masonii, javana* = *masonii*) (synon. spp.) 279-289; *Asterorhombus* (7 spp.: 3 removed to *Engyprotopon*, *A. fijiensis* = *A. cacosensis*) 445-460; *Sturisma kneri* n. sp. (discuss valid. of *Loricaria kneri*, *S. kneri* made available) 559-565; *Megalechis personata* = *M. thoracata*, *Megalechis thoracata* = *M. picta* (examin. of *Callichthys* holotypes leads to these confusing name changes) 678-682; *Haplogenyx (sennin* n. sp., *nigripinnis*, *nitens* = *nigripinnis*) (n. sp. from specimens identified as *H. nigripinnis*; redescri. *H. nigripinnis* from type specimens & other specimens identified as *H. nitens*, therefore *H. nitens* = *H. nigripinnis*) 854-867.
- OSTEOLOGY.** *Ptilichthys goodei* (juv. specimens mainly, discuss axial elongation) 571-585; *Lobotes surinamensis*, *Datnioides quadrifasciatus* (oral jaws w/ dentition, unique tooth replcmnt. pttn.) 665-672.
- PALEONTOLOGY.** *Acentrophryne* sp. (fossil) (California Miocene) 246-251.
- PATHOGENS.** *Atelognathus patagonicus* (endnrgd. sp., evid. of disease in lg. % of metamorphic tdpis. & metamorphs) 921-929.
- PHYLOGENETIC ANALYSIS.** *Silvinichthys (bortayro* n. sp., *mendozensis*) (notes on genus & Trichomycterid subfams.) 100-108; *Pseudanotis (winterbottomi* n. sp., *gracilis*) (clad. anal. of Anostominae, uncert. for *P. winterbottomi* n. sp.) 109-123; *Nemuroglanis (lanceolatus, pauciradiatus)*, *Imparales mariai* & *Medemichthys guayaberensis* = *Nemuroglanis mariai* (clad. anal. of *Nemuroglanis*, *Imparales*, *Medemichthys*; syn. *I. mariai* into *Nemuroglanis* & *Medemichthys* into *N. mariai*) 124-137; *Scaphiophryne (menabensis* n. sp., *marmorata*, *madagascariensis*) (clad. anal., mtDNA

data, these 3 spp. & other congeners) 252-261; *Cottus* (36 of 42 recognized spp., 6 undescribed spp.), *Leptocottus armatus*, 4 other Cottid genera (clad. anal. of *Cottus* & taxa disrupting *Cottus* monophyly) 303-311; *Cyprinodon* (24 of 29 SW. N. Amer. spp., 11 of 20 E. N. Amer. & W. Indies spp.), *Jordanella floridae*, *Cualac tessellatus*, *Megupsilon aporus* (clad. anal., *Cyprinodon* sister to *Megupsilon*, mtDNA & allozyme data) 320-339; *Lepomis* (all 12 spp.) (clad. anal. of genus, mtDNA data, sister spp., hybrid. confounds some spp. monophyly, possible cryptic spp.) 340-346; *Coregonus* (19 popns. in 8 lakes) (clad. anal. of genus using phenotypic & ecol. data, signif. of homoplasy) 347-358; *Pseudoeurycea (papenfussi)* n. sp., *obesa* n. sp.) (phyl. rels., mtDNA data) 461-469; *Brachyplatystoma capapretum* n. sp. (clad. anal., morph. charcs.; new tribe for *B.* and *Platynemichthys*; *Gostinia* & *Merdontotus* = *B.*; subgenus *Malacobagrus* incl. n. sp. & 2 other spp., *B. filamentosum* is sister to n. sp.) 492-516; *Eleutherodactylus (bipunctatus)* n. sp., *aniptopalmatus* n. sp., *rhabdocnemus* n. sp., *stictogaster* n. sp.) (clad. anal. of some Peru *Eleutherodactylus* & *Phrynosus* incl. the n. spp., mtDNA data, genera not monophyl.) 526-538; *Creagrutus guanes* n. sp. (clad. anal. using char. states of Vari & Harold, 2001, not closely rel. to trans-Andean congeners) 812-817; *Bungarus (bungaroides, slowinskii)* n. sp.) (clad. anal., mtDNA data, *B. bungaroides* is sister to n. sp.) 818-833.

PHYSIOLOGY, *Alopias vulpinus* (aerobic muscle temp. increase during swimming) 146-151; *Litoria (genimaculata, lesueuri)*, *Rana (septentrionalis, sylvatica)* (buoyancy control in frog larvae) 188-195; *Aspidoscelis inornata*, *Holbrookia maculata*, *Sceloporus undulatus* (coloration plasticity among color morphs) 586-596; *Sceloporus undulatus* (sex. dichromatism regulated by testosterone) 597-608; *Lampropholis (guichenoti, delicata)*, *Physignathus lesueurii* (egg shell chem. comp. & struct.) 683-692; *Bathygobius (fuscus, sp.)*, *Periophthalmus kalolo* (higher temp. var. toler. & lower ox. consump. var. in non-air-breathing spp. vs. air-breathing sp. in extreme hab.) 886-893.

POPULATIONS, *Cyprinodon tularosa* (new popns. of thirtnd. sp. transloc. to new habs., body shape chngs.) 1-11; *Notropis mekistocholas* (effective popn. size in captive popn.) 20-28; *Coregonus* (19 popns. in 8 lakes) (complex of homoplasious & homologous charcs. separate popns., unique in nature) 347-358; *Agkistrodon piscivorus* (import. of buffer zones around riparian habs. for gravid females) 399-402; *Astyanax mexicanus* (gene flow btwn. cave & surface popns.) 409-416; *Elaphe quatuorlineata* (body size & diet diffs. btwn. popns. in diff. habs.) 517-525; *Eleutherodactylus johnstonei* (reprod. ecol. of introd. popn., success as invader rel. to reprod. flex.) 642-648; *Heterandria formosa* (popn. diffs. in matrotrophy mechanisms) 649-656; *Microlophus peruvianus* (active body temps.

diff. btwn. popns. in warmer & colder habs.) 713-723; *Dasyllus melanurus* (soc. beh. diffs. btwn. popns. rel. to sex change freq. diffs.) 732-744; *Boa constrictor* (island snakes differ from mainland popns., island popns. endngd. by pet trade) 880-885.

PREDATION, *Notropis topeka*, *Micropterus salmoides*, *Cyprinella lutrensis*, *Pimephales notatus*, *Luxilus cornutus* (minnow hab. use differs, not explains severe pred. eff. of *M. salmoides* on endngd. *N. topeka*) 38-47; *Hyla versicolor* (pred. chem. cues at egg stage aff. larval develop.) 169-173; *Vermicella annulata*, *Ramphotyphlops nigrescens* (preds. [*V. annulata*] follow chem. trails of prey [*R. nigrescens*]) 184-187; *Sistrurus miliarius* (factors affecting striking & fleeing in pred. defence) 196-200; *Ensatina eschscholtzii xanthoptica* (evid. for aposematic coloration, possible Batesian mimicry) 265-271; Cichlids (Lake Tanganyika: 48 spp., Lake Malawi: 48 spp.) (shape diversity greater in piscivorous than in other Cichlids) 359-373; *Lapemis curtus* (stom. conts. evid. for ambush foraging) 637-641; *Leptodactylus labyrinthicus* (oophagy both w/in foam nests & after tdpls. leave nests) 803-811; *Rana sylvatica*, *Anax junius* (body zones & kill probs. of dragonfly naiad strikes on tdpls.) 909-913.

REPRODUCTION, *Philautus (bobingeri)* n. sp., *graminirupes* n. sp.) (notes) 29-37; *Gynnotus (carapo, mamiraua)* (nest. & paternal care, speculation on funct. of electric organ dischg. in nesting) 48-60; *Crotalus atrox* (reprod. ecol., seas., delayed vitellogenesis, litter size, neonate sex ratio equal, male neonates larger, less than annual parturition) 152-158; *Heterodontus omanensis* n. sp. (unique egg case) 262-264; *Agkistrodon piscivorus* (import. of buffer zones around riparian habs. for gravid females) 399-402; *Rana dalmatina* (no male mate choice) 403-408; *Malaclemys terrapin* (egg comparison btwn. clutches) 417-423; *Heterandria formosa*, *Poecilia reticulata*, *Gambusia (affinis, geisen)* (non-radiative method to assess matrotrophy) 632-636; *Eleutherodactylus johnstonei* (reprod. ecol. of introd. popn., success as invader rel. to reprod. flex.) 642-648; *Heterandria formosa* (popn. diffs. in matrotrophy mechanisms) 649-656; *Lethrinops* c.f. *parvidens* (experim. evid. for female choice of male beh. trait) 657-660; *Lampropholis (guichenoti, delicata)*, *Physignathus lesueurii* (egg shell chem. comp. & struct., *P. lesueurii* shares 1 trait w/ the Tuatara) 683-692; *Dasyllus melanurus* (soc. beh. diffs. btwn. popns. rel. to sex change freq. diffs.) 732-744; *Leptodactylus labyrinthicus* (larval devel. in foam nests & after leave nests, oophagy) 803-811; *Mustelus (hacat)* n. sp., *lunulatus* (notes) 834-845; *Kinosternon subrubrum*, *Sternotherus odoratus*, *Pseudemys floridana* (clutch & egg size var. rel. to optimal egg-size & phenotypic plasticity models of reprod. allocation) 868-879; *Rhizoprionodon terraenovae* (evid. for geogr. sex. segregation in adults, neonate

migr. to inshore hab.) 914-920; *Thamnophis elegans* (eff. of temp. on embryo mortal., evid. for coadapt. of thermoreg. & embryo devel. & adult perform.) 930-934.

RESPIRATION, *Gymnotus* (*obscurus* n. sp., *varzea* n. sp., *cucupira* n. sp.) (descript. of air-breathing) 82-99; *Bathygobius* (*fuscus*, sp.), *Periophthalmus kalolo* (higher temp. var. toler. & lower ox. consump. var. in non-air-breathing spp. vs. air-breathing sp. in extreme hab.) 886-893.

SALINITY, *Pogonichthys macrolepidotus* (young-of-yr. far upstream, migr. to estuaries, conserv. implcs.) 159-168.

SEX, *Dasyllus melanurus* (soc. beh. diffs. btwn. popns. rel. to sex change freq. diffs.) 732-744.

SEX RATIO, *Crotalus atrox* (neonate sex ratio equal) 152-158; *Lepidochelys kempii* (female bias in FL popn. due to incub. temp.) 393-398.

SEXUAL DIMORPHISM, *Symbolophorus reversus* n. sp. (of supracaudal gland) 138-145; *Albericus exclamitans* n. sp. (hidden tympana in males unique in genus) 312-319; *Asterorhombus* (*cocosensis*, *filifer*) (in interorbital width) 445-460; *Elaphe quatuorlineata* (females larger) 517-525; *Sceloporus undulatus* (sex. dichromatism regulated by testosterone) 597-608; *Glanidium bockmanni* n. sp. (highly modif. anal fin in males) 846-853.

SIZE, *Malaclemys terrapin* (compare egg size & components among clutches) 417-423; *Elaphe quatuorlineata* (body size: gender & hab. diffs.) 517-525; *Eleutherodactylus johnstonei* (greater clutch sizes in larger females) 642-648; *Kinosternon subrubrum*, *Sternotherus odoratus*, *Pseudemys floridana* (clutch & egg size var. rel. to optimal egg-size & phenotypic plasticity models of reprod. allocation) 868-879; *Boa constrictor* (body size, neonate size & popn. sizes much smaller in island vs. mainland popns.) 880-885.

SUPRACAUDAL GLAND, *Symbolophorus* (*reversus* n. sp., *evermanni*) (morph. in n. sp. unique) 138-145.

SYSTEMATICS, *Philautus* (*bobingeri* n. sp., *graminirupes* n. sp.) (n. spp., compare to close rels.) 29-37; *Barbodes laticeps* = *Linichthys* n. gen. *laticeps* (redescript., compare to similar *Typhlobarbus nudiventris*) 61-67; *Trichomycterus gorgona* n. sp. (n. sp., compare to congeners & other Gorgona Is. fishes) 68-76; *Lasiognathus amphirhamphus* n. sp. (n. sp., compare to congeners, key to the 5 spp. of genus) 77-81; *Gymnotus* (*obscurus* n. sp., *varzea* n. sp., *cucupira* n. sp.) (3 sympatric n. spp.) 82-99; *Silvinichthys* (*bortayro* n. sp., *mendozensis*) (n. sp., compare to congener, phyl. notes) 100-108; *Pseudanos* (*winterbottomi* n. sp., *gracilis*) (n. sp., compare n. sp. to *P. gracilis*, phyl. anal. & key to genera & spp. of Anostominae) 109-123; *Nemuroglanis* (*lanceolatus*, *pau-ciradatus*), *Imparales mariai* & *Medemichthys guayabensis* = *Nemuroglanis mariai* (phyl. anal. of *Nemuroglanis*, *Imparales*, *Medemichthys*; syn. *I. mariai* into *Nemuroglanis* & *Medemichthys* into *N. mariai*) 124-137; *Symbolophorus* (*reversus* n. sp.,

evermanni) (n. sp. compared to congeners, *S. evermanni* closest rel., n. sp. supracaudal gland morph. unique) 138-145; *Bolitoglossa copia* n. sp. (describe sp.) 223-226; *Bolitoglossa* (*anthracina*, *copia*, *negrescens*, *robusta*, *magnifica* n. sp., *obscura* n. sp., *sombra* n. sp.) (describe n. spp., redescri. *B. robusta* & *B. negrescens*, compare all 7 spp.) 227-245; *Acentrophryne* (*longidens*, *dolichonema* n. sp., sp. [fossil]) (n. sp., revise genus) 246-251; *Scaphiophryne* (*menabensis* n. sp., *marmorata*, *madagascariensis*) (n. sp., compare to congeners, phyl. anal. of genus, mtDNA data) 252-261; *Heterodontus omanensis* n. sp. (n. sp., unique egg case) 262-264; *Jupiaba poekotero* n. sp. (n. sp., phyl. notes on rel. w/ congeners) 272-278; *Huia* (*absita* n. sp., *melasma* n. sp., *masonii*, *javana* = *masonii*) (n. spp., expand descript. of *H. masonii*, compare to all congeners) 279-289; *Puntius* (*tiantian* n. sp., *didi* n. sp.) (n. spp. in *P. conchoni* sp. group, assign several other spp. to this sp. group, n. spp. compared in detail to congeners) 290-302; *Cottus* (36 of 42 recognized spp., 6 undescri. spp.), *Leptocottus armatus*, 4 other Cottid genera (phyl. anal. of *Cottus* & taxa disrupting *Cottus* monophyly) 303-311; *Albericus exclamitans* n. sp. (call & hidden tympana in males unique in genus) 312-319; *Cyprinodon* (24 of 29 SW. N. Amer. spp., 11 of 20 E. N. Amer. & W. Indies spp.), *Jordanella floridae*, *Cualac tessellatus*, *Megupsilon aporus* (phyl. anal., mtDNA & allozyme data, hybrid. involved, *Cyprinodon* sister to *Megupsilon*) 320-339; *Lepomis* (all 12 spp.) (phyl. anal. of genus, mtDNA data, genus monophyletic, support for most subgenera, problems w/ several spp.) 340-346; *Myxine* (*jespersenae* n. sp., *glutinosa*) (n. sp. compared to congeners, n. sp. deeper hab. than sympat. *M. glutinosa*) 374-385; *Bryconamericus tuiuba* n. sp. (n. sp. compared to congeners) 386-392; *Asterorhombus* (7 spp.: 3 removed to *Engyprochopon*, *A. fijiensis* = *A. cocosensis*) (redefine genus, key to the 3 valid spp., all have esca on 1st dorsal fin ray) 445-460; *Pseudoerycea* (*papenfussi* n. sp., *obesa* n. sp.) (n. spp., spp. groups, closest rels., sister spp., mtDNA data) 461-469; *Etropus ciadi* n. sp. (n. sp., closest rels.) 470-478; *Phrynopus* (*bufoides* n. sp., *paucari* n. sp., *pesantisi* n. sp.) (n. spp., compare to congeners) 479-491; *Brachyplatystoma capapretum* n. sp. (n. sp.; phyl. anal.; new tribe for *B.* & *Platynemichthys*; *Goslinia* & *Merodontotus* = *B.*; subgenus *Malacobagrus* incl. n. sp. & 2 other spp., *B. filamentosum* is sister to n. sp.) 492-516; *Eleutherodactylus* (*bipunctatus* n. sp., *anipalpalmatus* n. sp., *rhabdocnemus* n. sp., *stictogaster* n. sp.) (n. spp., determ. sp. groups, phyl. anal., mtDNA data) 526-538; *Pareiorhina* (*brachyrhyncha* n. sp., *rudolphi*) (n. sp., compare to sympatric *P. rudolphi*, key to spp. of genus) 550-558; *Sturisoma kneri* n. sp. (n. sp., discuss valid. of *Loricaria kneri*, *S. kneri* made available) 559-565; *Clupisoma nujiangense* n. sp. (n. sp., compare to congeners) 566-570; *Phallotorynus* (*fasciolatus*, *victoriae*, *jucundus*, *disiplos* n. sp.,

psittakos n. sp., *pankalos* n. sp.) (revise genus, redescribe 3 spp., describe 3 n. spp., histor. biogeogr., key to spp.) 609–631; *Lobotes surinamensis*, *Datnioides quadrifasciatus* (unique tooth replcmnt. pttm.: possible synap. for the 2 genera) 665–672; *Megalechis personata* = *M. thoracata*, *Megalechis thoracata* = *M. picta* (describe *M. thoracata* & *M. picta*, examin. of *Callichthys* holotypes leads to these confusing name changes) 678–682; *Lepthoplosternum stellatum* n. sp., *ucamara* n. sp., *altamazonicum* (n. spp., compare to congeners, key to the 6 spp. of genus) 724–731; *Pseudomystus (sobrinus* n. sp., *siamensis*, *bomboides*) (n. sp., compare to close rels.) 745–750; *Parodon moreirai* n. sp. (n. sp., compare to congeners & *Apareiodon*, dentition & some other traits sim. to *Apareiodon*) 765–771; *Noturus (elegans*, *fasciatus* n. sp., *crypticus* n. sp.) (2 n. spp. described from popns. previously considered *N. elegans*, also compared to some other congeners) 783–802; *Creagrutus guanes* n. sp. (n. sp., phyl. anal., not closely rel. to trans-Andean congeners) 812–817; *Bungarus (bungaroides*, *slowinskii* n. sp.) (n. sp., phyl. anal., *B. bungaroides* is sister to n.sp., biogeogr. & mtDNA evid. for vicariant speciation) 818–833; *Mustelus (hacat* n. sp., *californicus*, *henlei*, *lunulatus*, *dorsalis*) (n. sp., compare to NE Pacific congeners, key to the 5 spp.) 834–845; *Glanidium bockmanni* n. sp. (n. sp., compare to congeners, possible problems w/ monophyly of genus) 846–853; *Hapalogynys (sennin* n. sp., *nigripinnis*,

nitens = *nigripinnis*) (n. sp. from specimens identified as *H. nigripinnis*, redescr. *H. nigripinnis* from type specimens & other specimens identified as *H. nitens*, therefore *H. nitens* = *H. nigripinnis*) 854–867.

TEMPERATURE, *Dipsosaurus dorsalis* (herbiv. vs. carniv. diets prod. diff. ptms. of thermoreg., relates to energy conserv.) 12–19; *Alopias vulpinus* (aerobic muscle temp. increase during swimming) 146–151; *Lepidochelys kempii* (female bias in FL popn. due to incub. temp.) 393–398; *Microlophus peruvianus* (active body temps. diff. btwn. popns. in warmer & colder habs.) 713–723; *Bathygobius (fuscus*, sp.), *Periophthalmus kalolo* (air-breathing & non-air-breathing beh. & physiol. adapts. to extreme diel temp. fluct.) 886–893; *Hoplocephalus bungaroides*, *Oedura lesueurii* (reduced temp. in rock refugia due to fire suppression, conserv. implics. for endngd. sp. & its prey sp.) 894–900; *Rhizoprionodon terraenovae* (heat stress & hypoxia may aff. adult male abund. in Miss. Sound) 914–920; *Thamnophis elegans* (eff. of temp. on embryo mortal., evid. for coadapt. of thermoreg. & embryo devel. & adult perform.) 930–934.

TOXICITY, *Ensatina eschscholtzii xanthoptica* (evid. for aposomatic coloration) 265–271.

VISION, *Silvinichthys bortayro* n. sp. (reduced eye on phreatic catfish) 100–108.